UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

APR 22 2016

CERTIFIED MAIL 7009 1680 0000 7648 7863
RETURN RECEIPT REQUESTED

Mr. Kent Zimmerman
EHS Coordinator
Reliable Castings Corporation
1521 West Michigan Street
Sidney, Ohio 45365

Re: Notice of Violation
Compliance Evaluation Inspection
OHD986981231

Dear Mr. Zimmerman:

On February 25, 2016, representatives of the U.S. Environmental Protection Agency and Ohio Environmental Protection Agency inspected the Reliable Castings Corporation in Sidney, Ohio (hereinafter "RCC," "facility" or "you"). As a generator of hazardous waste, used oil and universal waste, RCC is subject to the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 *et seq.* ("RCRA"). The purpose of the inspection was to evaluate RCC's compliance with certain provisions of RCRA and its implementing regulations related to the generation, treatment and storage of hazardous waste, used oil and universal waste. A copy of the inspection report is enclosed for your reference.

Based on information provided by RCC, EPA's review of records pertaining to RCC, and the inspector's observations, EPA has determined that RCC violated RCRA requirements related to the storage and management of universal waste, as described in paragraphs 1 and 2, below:

1. Universal Waste Labeling Requirements

Under Ohio Admin. Code § 3745-273-14(E) [40 C.F.R. § 273.14(e)], a small quantity handler of universal waste lamps must label or clearly mark each lamp or a container or package in which lamps are stored with any one of the following phrases: "Universal Waste – Lamp(s)," "Waste Lamp(s)" or "Used Lamp(s)."

RCC is a small quantity handler of universal waste because it accumulates less than 5,000 kilograms of universal waste on its site at any time. At the time of the inspection, RCC maintained a universal waste storage room on the north side of its sand foundry building.

At least ten boxes of universal waste lamps were observed in this room during the inspection, none of which appeared to be labeled with one of the phrases above. RCC, therefore, failed to meet the universal waste labeling requirements.

During a phone call on March 14, 2016, RCC indicated that the universal waste observed during the inspection had been shipped off-site for disposal, and that new containers and labels had been obtained for use with universal wastes generated in the future. RCC provided photographs of the universal waste storage room on March 18, 2016 to document these actions. Thus, no further action is necessary to comply with this requirement at this time.

2. Universal Waste Storage Requirements

Under Ohio Admin. Code §§ 3745-273-13(D)(1) and (2) [40 C.F.R. §§ 273.13(d)(1) and (2)], a small quantity handler of universal waste must contain universal waste lamps in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers and packages must remain closed and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The small quantity handler must also immediately clean up and place in a container any lamp that is broken or any lamp that shows evidence of breakage, leakage or damage that could cause a release to the environment.

At the time of the inspection, RCC maintained a universal waste storage room on the north side of its sand foundry building. At least ten boxes of universal waste lamps were observed in this room during the inspection, the majority of which were open with waste lamps protruding from them. Several broken lamps were observed that were not properly containerized. RCC, therefore, failed to meet the universal waste management requirements above.

During a phone call on March 14, 2016, RCC indicated that the universal waste observed during the inspection had been shipped off-site for disposal, and that new containers and labels had been obtained for use with universal wastes generated in the future. RCC provided photographs of the universal waste storage room on March 18, 2016 to document these actions. Thus, at this time no further action is necessary to comply with this requirement.

After the inspection, as documented in a March 14, 2016 phone call and a March 18, 2016 email to EPA, you took certain actions to establish compliance with the above universal waste requirements. Based on the information received from RCC, EPA is not planning any additional enforcement action based on the inspection at this time. This letter does not limit the

applicability of the requirements evaluated, or of other federal or state statutes or regulations. EPA appreciates RCC's cooperation in this matter.

If you have any questions regarding this letter, please contact Mr. Brian Kennedy, of my staff, at (312) 353-4383 or at kennedy.brian@epa.gov.

Sincerely,

Gary J. Victorine, Chief
RCRA Branch

Enclosure

cc: Cathy Altman, Ohio EPA (cathy.altman@epa.ohio.gov)
Mitch Matthews, Ohio EPA (mitchell.matthews@epa.ohio.gov)

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region 5, Land and Chemicals Division
RCRA Branch, LR-8J
77 West Jackson Boulevard
Chicago, Illinois 60604

COMPLIANCE EVALUATION INSPECTION REPORT

INSPECTION DATE:	February 25, 2016
SITE NAME:	Reliable Castings Corporation
ADDRESS:	1521 West Michigan Street Sidney, Ohio 43565
EPA ID NUMBER:	OHD986981231
GENERATOR STATUS:	Small Quantity Generator (1992)
NAICS CODE:	331524 Aluminum Foundries
FACILITY CONTACT:	Mr. Kent Zimmerman EHS Coordinator
EPA INSPECTOR:	Brian Kennedy Environmental Engineer Compliance Section 2 RCRA Branch Land and Chemicals Division

PREPARED BY: Brian Kennedy — Date: 3/21/2016

APPROVED BY: Julie Morris, Chief, Compliance Section 2 — Date: 3/24/16

Purpose of Inspection

An unannounced Compliance Evaluation Inspection (CEI) of the Reliable Castings Corporation (hereinafter "RCC" or "facility") located at 1521 West Michigan Street, Sidney, Ohio took place on February 25, 2016. The CEI was conducted by U.S. Environmental Protection Agency and Ohio Environmental Protection Agency (OEPA) personnel and was an evaluation of the facility's compliance with certain provisions of the Resource Conservation and Recovery Act (RCRA) and its implementing regulations found in the Ohio Administrative Code and the Code of Federal Regulations. Specifically, the CEI was an evaluation of RCC's compliance with the regulations governing generators of hazardous waste.

Participants

The following persons were present for part or all of the inspection:

R. J. Kuhn – President	RCC
Randy Presser – Sand Foundry Maintenance Supervisor	RCC
Bill Willoughby – Automated Casting Operations Maintenance Supervisor	RCC
Cathy Altman – Environmental Specialist	OEPA
Brian Kennedy – Environmental Engineer	U.S. EPA

Introduction

I arrived on site at 9:00 AM EST and met with Cathy Altman of the OEPA. We entered the front office and requested to see an environmental coordinator. Shortly thereafter Mr. R.J. Kuhn, RCC's President, arrived and led us to a nearby meeting room for an opening conference. I presented Mr. Kuhn my enforcement officer credentials and business card and provided the Small Business Resource and Pollution Prevention information sheets. I described the purpose of the U.S. EPA RCRA inspection and the process by which I would conduct the inspection, including a site tour that would involve photographs of hazardous waste storage areas, as well as a review of applicable RCC records pertaining to hazardous waste. Mr. Kuhn stated the Mr. Kent Zimmerman, RCC's EHS Coordinator, would not be present during the inspection.

I informed Mr. Kuhn of RCC's right to claim any information or documents collected during the inspection as confidential business information.

Site Description

The following information about RCC is based on personal observations of the EPA inspector and on representations made during the inspection by facility personnel identified above or within the text, unless otherwise specified.

RCC is an aluminum foundry providing both sand and permanent mold castings for consumer and commercial automotive and military applications, among other. From its website (www.reliablecastings.com): "Reliable Castings Corporation has been a supplier of quality aluminum castings since 1922. By combining traditional foundry methods with advanced

manufacturing technology, we are able to produce consistently high-quality castings at a competitive price. Although we are large enough to service high-volume orders for the automotive industry, we are also responsive enough to provide personalized support to our smaller customers." In addition to casting, RCC provides machining services for finished castings and mold finishing and repair services.

Common components produced by RCC include intake manifolds and connectors, oil pans, brake calipers, engine mounts, flywheel housings, and water pumps, among many others. Certain components casted by RCC must meet quality specifications to be certified for safe use in commercial vehicles, including, for example, braking system components. Because of the quality control required for these parts, RCC casts its products from certified aluminum ingots with specific alloy chemistry. RCC does not utilize scrap aluminum to cast its products, though it does ship its own shavings, drosses and other scrap aluminum materials off-site for reuse.

RCC's facility in Sidney, Ohio was constructed in the 1950's and initially operated as a different casting company. The facility was acquired in 1986 as RCC. RCC has approximately 200 to 210 employees on site with shifts depending on the production area. Permanent molding operations have 2.5 shifts per day, five days per week while sand molding operations require 1.5 shifts per day, five days per week. RCC is an employee owned and operated facility.

The facility is comprised of four buildings: an administrative office, the sand foundry and machining building, the automated casting operations (ACO) building, and a storage barn. Sprinkler systems are present in administrative offices but not in aluminum processing areas due to the explosion hazard associated with molten aluminum and water. Fire extinguishers are available in all areas of RCC, and are serviced by Cintas. The Sidney Fire Department has previously conducted walk-throughs of RCC. All buildings on site are equipped with a PA system that would be used in the event of an emergency.

Waste streams generated by RCC include scrap aluminum and dross, cleaning wastewater, quench water, used oil, x-ray film development solution, universal wastes, and spent aerosol can wastes. Scrap aluminum and dross is shipped off-site for recycling. Cleaning wastewater and quench water, used to cool castings, is shipped off-site by Valicor Environmental Services of Middletown, Ohio. Valicor changes out quench tank water approximately once per year, while collecting totes of cleaning wastewater more frequently. Neither of these waste streams have been characterized as hazardous by RCC. Used oil is generated from a variety of the casting machines used around RCC's site. The x-ray film development solution used to analyze casting quality is collected and sold back to the supplier for reclamation. Universal wastes generated include lamps, batteries and ballasts. Spent aerosol cans are punctured and waste liquids are drained in 55-gallon drums, which are later sent off-site for disposal.

RCC has previously notified as Small Quantity Generator of hazardous waste in 1992. Waste codes associated with that notification included D001, F002, F003, and F005. RCC does not currently generate a regular hazardous waste stream other than waste liquids that are extracted from aerosol cans in its sand foundry and ACO buildings. RCC previously generated hazardous waste cleaning solvents from a parts washer, but the unit has since been replaced by a parts washer that uses an aqueous-based cleaner.

Site Tour

Mr. Kuhn led Ms. Altman and myself through a tour of RCC. The tour started in the west end of the sand foundry building, where RCC maintains its machining operations. There were a variety of machining tools throughout the space. I asked Mr. Kuhn about the waste oils or lubricants that are generated by machining operations. He stated used oil may be generated from the machines themselves, while lubricating oils for cutting are water-based. No used oil containers were observed in the area.

The tour moved east into the sand foundry division shipping and receiving area. Near the entrance of this division was a small blue-bin recycling area where RCC was accumulating universal waste batteries and spent aerosol cans (See Photo 1 in Attachment A: Inspection Photographs). The container accumulating waste batteries was labeled and dated 9/14/15. In the shipping and receiving area Mr. Kuhn pointed out incoming aluminum ingots as well as finished castings made in the division. Mr. Randy Presser, the Sand Foundry's Maintenance Supervisor, joined the tour in the shipping and receiving area. I asked Mr. Presser to see any universal waste or used oil storage areas in the building. Mr. Presser led the tour outside a north exit and to a nearby locked storage room. Inside the storage room RCC was storing universal waste lamps and batteries (See Photo 2). There were approximately 10 boxes of waste fluorescent lamps on their side, none of which appeared to be labeled or dated. Many of the lamps were protruding from their boxes and some broken lamps were observed. An open-top cardboard drum to the right of the lamps was storing smaller lamps and batteries. This drum was dated 5/15/13. A smaller plastic bucket in room was storing additional waste batteries and was dated 7/4/14. Ms. Altman and I briefly explained to Mr. Kuhn and Mr. Presser the universal waste management requirements for lamps and batteries.

The tour continued back inside to RCC's sand foundry quality control area. Here, castings are checked for quality through use of a penetrant solution and x-ray analysis. We spoke briefly with the laboratory manager who took us to a penetrant inspection area. He pointed out a drum where film development solution was stored (Photo 3). The material is corrosive, but it is sold back to Kodak for reclamation of its silver content. The fluorescent penetrant dye "Zyglo" was observed in the area. I asked the laboratory manager to see the MSDS of the Zyglo material and the film development solution. The Zyglo dye was composed primarily of alcohols and had a flash point greater than 200 F. The Kodak development solution MSDS did not provide a pH, but its composition was acid-based.

Mr. Kuhn and Mr. Presser led the tour south towards the sand foundry operations and briefly explained the production process. Another blue-bin recycling area accumulating universal waste batteries and aerosol cans was observed. The container storing universal waste batteries was labeled and dated. At the foundry maintenance shop in the southeast corner of the building, Mr. Presser pointed out a new parts washer RCC has recently obtained. This parts washer was using an aqueous-based cleaning solution. Another blue-bin recycling area was located in the corner of the maintenance shop. The far left container, which was labeled to store universal waste batteries, was instead storing several waste fluorescent lamps (See Photo 4). There was no date on this container. A red storage container near this recycling area was accumulating oily rags. Mr. Presser said the rags are sent off-site for laundering and returned for reuse. Just outside the

maintenance shop was a 55-gallon drum accumulating used oil (See Photo 5). The drum was labeled as "Used Oil."

The tour continued west around the south end of the sand foundry casting areas. Underneath a stairwell on the west side of the casting area was a 55-gallon drum used to accumulated waste liquids from aerosol cans (See Photo 6). The drum was marked as "Waste – Hazardous" and was equipped with a puncturer and an emission control device. The color of the granular material inside the emission control device did not match either color associated with "Ready" or "Replace" on the device's legend. It was unclear if the collector was still functional. A black crate adjacent to the drum was accumulating punctured and emptied cans that would be sent off-site as scrap metal.

The tour of the sand foundry ended in the core staging and repair area west of casting. RCC prepares its sand cores in this area and repairs any defects prior to use for casting. Mr. Kuhn pointed out the product sand sources as well as several finished sand molds. An additional blue-bin recycling area was observed in the core staging area but no universal waste was present.

Mr. Presser left the tour and Mr. Kuhn led us next to the automated casting operations (ACO) building, which produces the safety-certified automotive components. The ACO building is located southwest of the sand foundry. We entered the building from the north side and met with Mr. Bill Willoughby, the ACO building's Maintenance Supervisor. The north end of the ACO building contained finishing areas where castings are inspected and repaired and storage areas where products are staged before shipment. A blue-bin recycling area was observed in the northwest corner of the building. The bins were accumulating universal waste batteries and were labeled and dated.

Moving south along the west end of the ACO building, Mr. Kuhn and Mr. Whilloby described the ACO casting process and pointed out RCC's new heat treating unit. The unit uses quench water to cool recent castings and improve their internal structure. Mr. Willoughby said this unit's quench water is changed out every year by Valicor, while non-contact cooling water is used to exchange heat with the quench water. There was a 55-gallon drum nearby that was accumulating the liquid from waste aerosol cans (See Photo 7). The drum was equipped with a puncturer and emission control device similar to the drum observed in the sand foundry. The drum was not labeled, though a user's manual was attached to the puncturing system. The granular material inside the emission control device did not match either color associated with "Ready" or "Replace" on the device's legend. It was unclear if the collector was still functional.

Continuing south Mr. Willoughby pointed out a small maintenance shop on the western side of the building. Another parts washer was in the area which also used an aqueous-based cleaning solution. A red bucket of oily rags was also observed. These rags are also sent off-site for laundering. No used oil or other wastes were observed in the maintenance shop.

At the southwest corner of the ACO building, Mr. Kuhn and Mr. Willoughby pointed out a second heat treat unit. Valicor also removes the quench water from this system on an annual basis. Mr. Kuhn then led the tour through the automated casting area where we observed the casting of engine cylinders and other components.

At the southeast corner of the ACO building is a small shipping and receiving dock. At the time of the inspection there was a tractor trailer present in the dock accumulating waste dross and slag. Mr. Kuhn explained the material had to be protected from rainwater in order to minimize the explosion and fire hazard. Mr. Kuhn said much of the scrap aluminum is recycled into grinding wheels.

The tour continued outside the east side of the ACO building to the storage barn. RCC maintains a storage area outside the western side of the barn. Here, several totes of process wastewater were observed. The totes were not labeled. Mr. Willoughby explained this material is not the quench water associated with heat treating but is instead generated from general spraying and cleaning operations. This wastewater is also taken off-site by Valicor. The tour briefly entered the storage barn, which was filled with a variety of old equipment, products, and molds that RCC retains should it need to re-cast an older product. No wastes were observed in the barn. The inspection continued back through the ACO building and to the administrative offices to review records.

Record Review
Diagrams of RCC's sand foundry and ACO building are in Attachment B.

I requested to see records of hazardous waste manifests and other shipment documents displaying the removal of used oil and universal waste from RCC. Mr. Kuhn was able to provide several non-hazardous waste manifests displaying the shipment of oily wastewater to Valicor Environmental Services of Middletown, Ohio. Several hazardous waste manifests were also located. The most recent hazardous waste shipment appeared to be in January of 2015 for one 55-gallon drum of D039 petroleum naphtha waste. This waste was taken to Safety-Kleen. Prior hazardous waste shipments appeared to be every 1 – 2 months and contained one to two drums of this same waste stream. Mr. Kuhn couldn't confirm the source of this hazardous waste stream but indicated it may have been from the previous parts washers used on site. Now that newer aqueous-based parts washers are used, this waste stream appears to have ceased.

We discussed several other aspects of waste management operations at RCC with Mr. Kuhn. Mr. Kuhn stated that classroom training for waste material management is provided by Mr. Zimmerman.

Closing Conference
I summarized my review of the site and potential issues to Mr. Kuhn. The issues and items that were discussed included:

- Universal waste storage and management requirements
- The potential for RCC to notify to the State of Ohio as a Conditionally Exempt Small Quantity Generator of hazardous waste

Mr. Kuhn did not make any confidential business information claims during the inspection.

The inspection ended at 12:00 PM.

Inspection Follow-Up

On March 14, 2016, I received a call from Mr. Zimmerman to discuss waste generation and management at RCC. The following issues were discussed:

- Since the inspection, Mr. Zimmerman stated RCC had sent its universal waste off-site to Clean Heights Recycling and had received new storage boxes and labels for use in the future. Prior to this, Mr. Zimmerman said the last universal waste shipment had occurred in May of 2015.
- Mr. Zimmerman said the aerosol can puncturers in both the ACO building and sand foundry had been purchased last October, and RCC has yet to ship the waste liquids off-site as waste.
- Mr. Zimmerman confirmed that the hazardous waste manifests that were viewed during the inspection were for the waste solvent that was generated in the old parts washers. That material was managed by Safety-Kleen. RCC's new parts washers use aqueous cleaners and are managed by Cintas.
- Used oil is taken off-site by Valicor. I asked about any used oil generation within the machining division of the sand foundry. Mr. Zimmerman said he would look to determine the sources in that area.
- I asked Mr. Zimmerman if RCC had ever tested the cleaning and quench wastewaters that are generated in the ACO buildings. He said he would check and provide existing records.
- I asked Mr. Zimmerman how RCC manages its waste foundry sand. He stated sand that cannot be reused is placed in a yard south of the sand foundry building. I asked if Mr. Zimmerman could provide records relating to sand yard, and for MSDS of the binding agents RCC uses in its foundry sand.
- I asked Mr. Zimmerman how RCC manages waste x-ray film. He said he was unsure but would consult that quality lab to find out.
- Mr. Zimmerman stated that he had notified as a CESQG to the state within the previous week.

On March 18 and 21, 2016, Mr. Zimmerman provided responses to items above, including photographs of new universal waste storage containers and labels, analytical test results for waters generated in the ACO building, MSDS for the binding agents in the foundry sand, and information about RCC's management of x-ray film. Mr. Zimmerman stated the x-ray film is sent off-site for recycling at Integrity Recycling of Bedford, Ohio. The follow-up documents and photographs are in Attachment C.

Attachments

A. Inspection Photographs
B. Facility Diagram
C. Follow-Up Information
D. Inspection Checklists

ATTACHMENT A: Inspection Photographs

Photographs were taken by Brian Kennedy using a Canon PowerShot A2400 IS Digital Camera. Camera time settings were on Central Standard Time during the inspection. The times in the table below are in Eastern Standard Time.

RCRA Photo Log

Photo	Description	Time (EST)
1	A blue-bin recycling area at the eastern side of the machining division inside the sand foundry building.	9:39 AM
2	Universal waste storage area inside the storage room on the north side of the sand foundry building.	9:45 AM
3	A 55-gallon drum in the sand foundry's quality assurance testing area accumulating spent film developing solution, which is later shipped off-site for reclamation.	9:54 AM
4	A blue-bin recycling are in the maintenance shop of the sand foundry building. Several universal waste lamps were in the far left bin.	10:04 AM
5	A 55-gallon drum of used oil outside the maintenance shop of the sand foundry building.	10:06 AM
6	An aerosol can puncture drum in the sand foundry casting area. The label on the drum read "Waste – Hazardous."	10:10 AM
7	An aerosol can puncture drum on the north side of the ACO building.	10:28 AM

Photo 1:


RECYCLING AREA
EMERGENCY SPILL CONTAINMENT KIT
02/25/2016 08:39

Photo 2:

Photo 3:

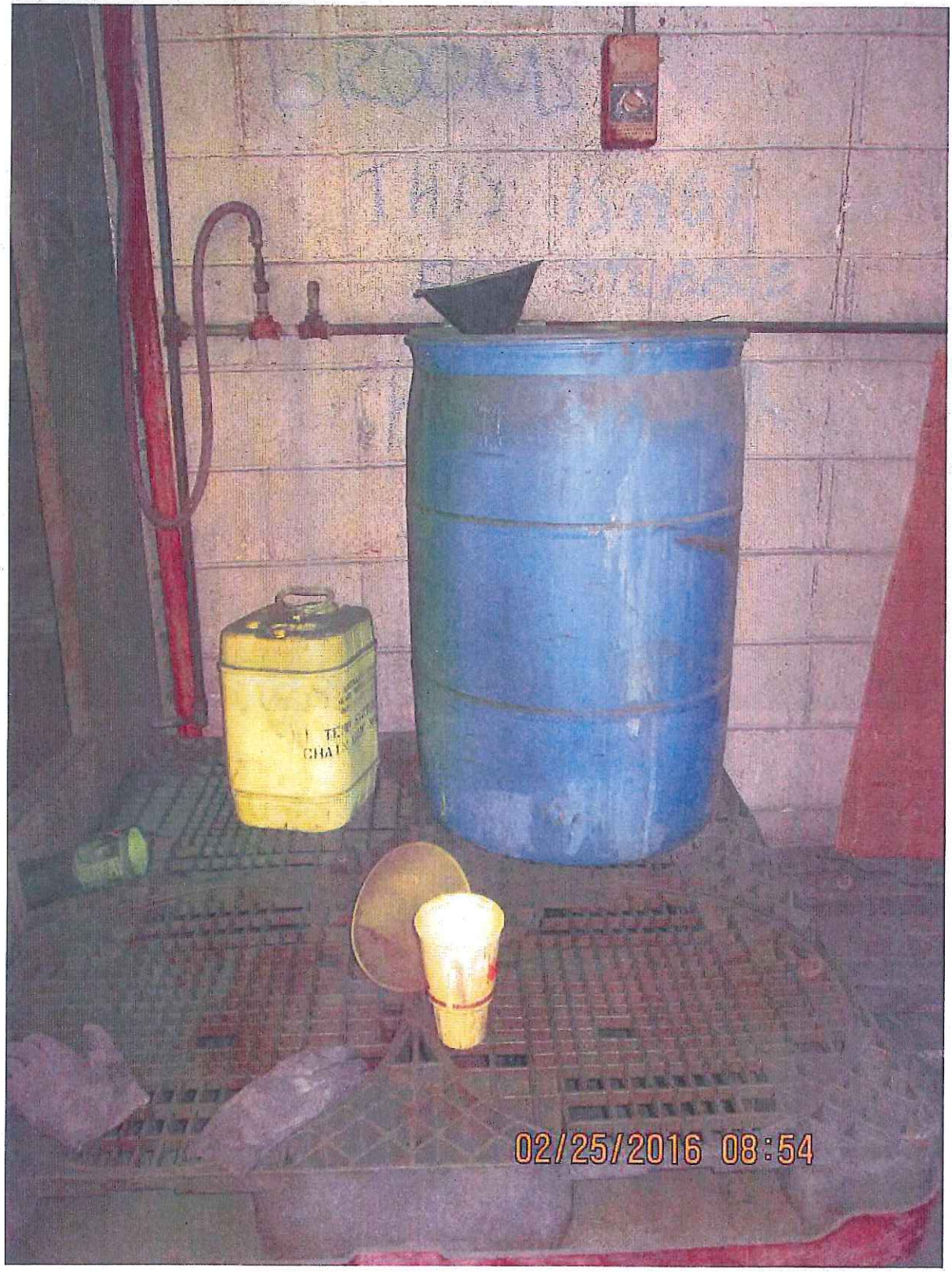


Photo 4:

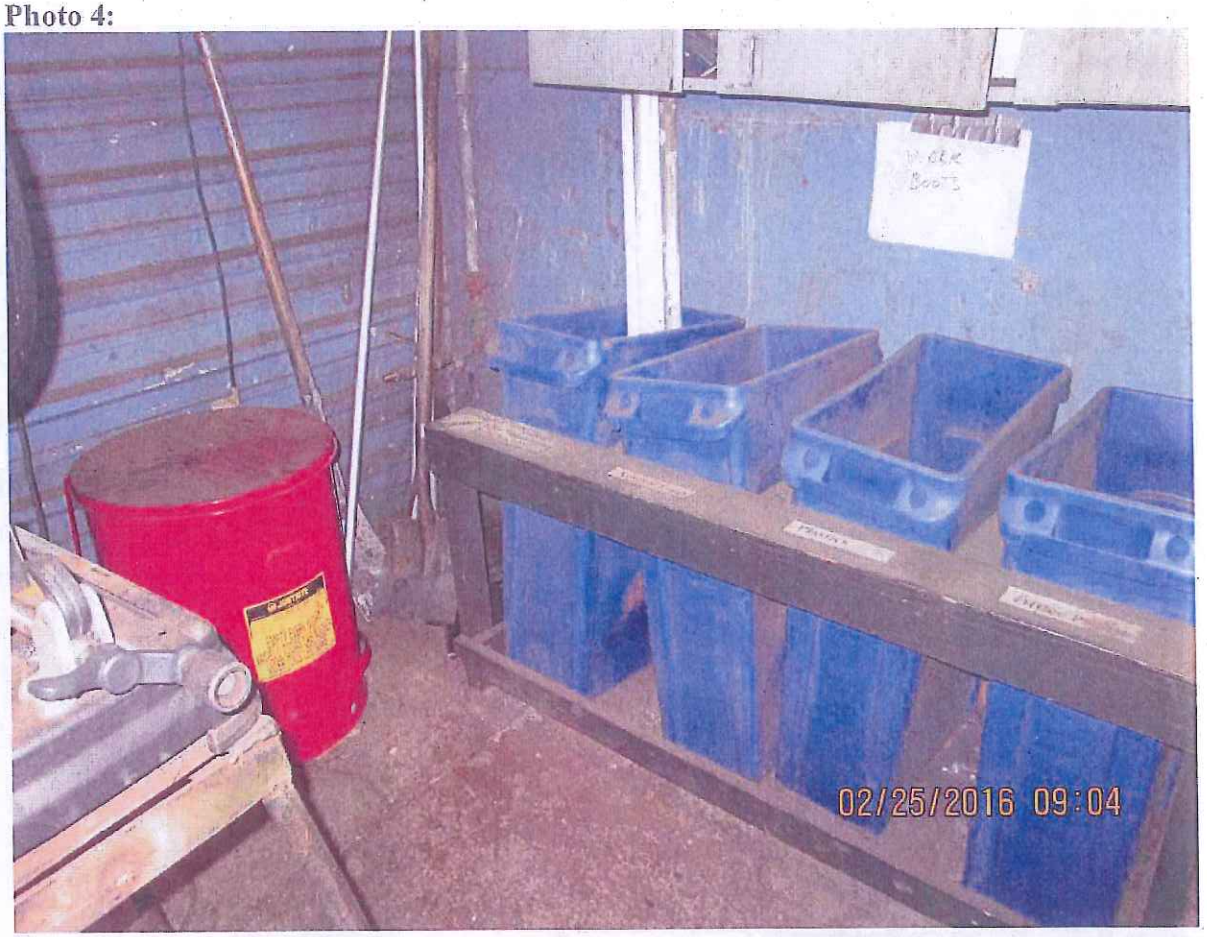
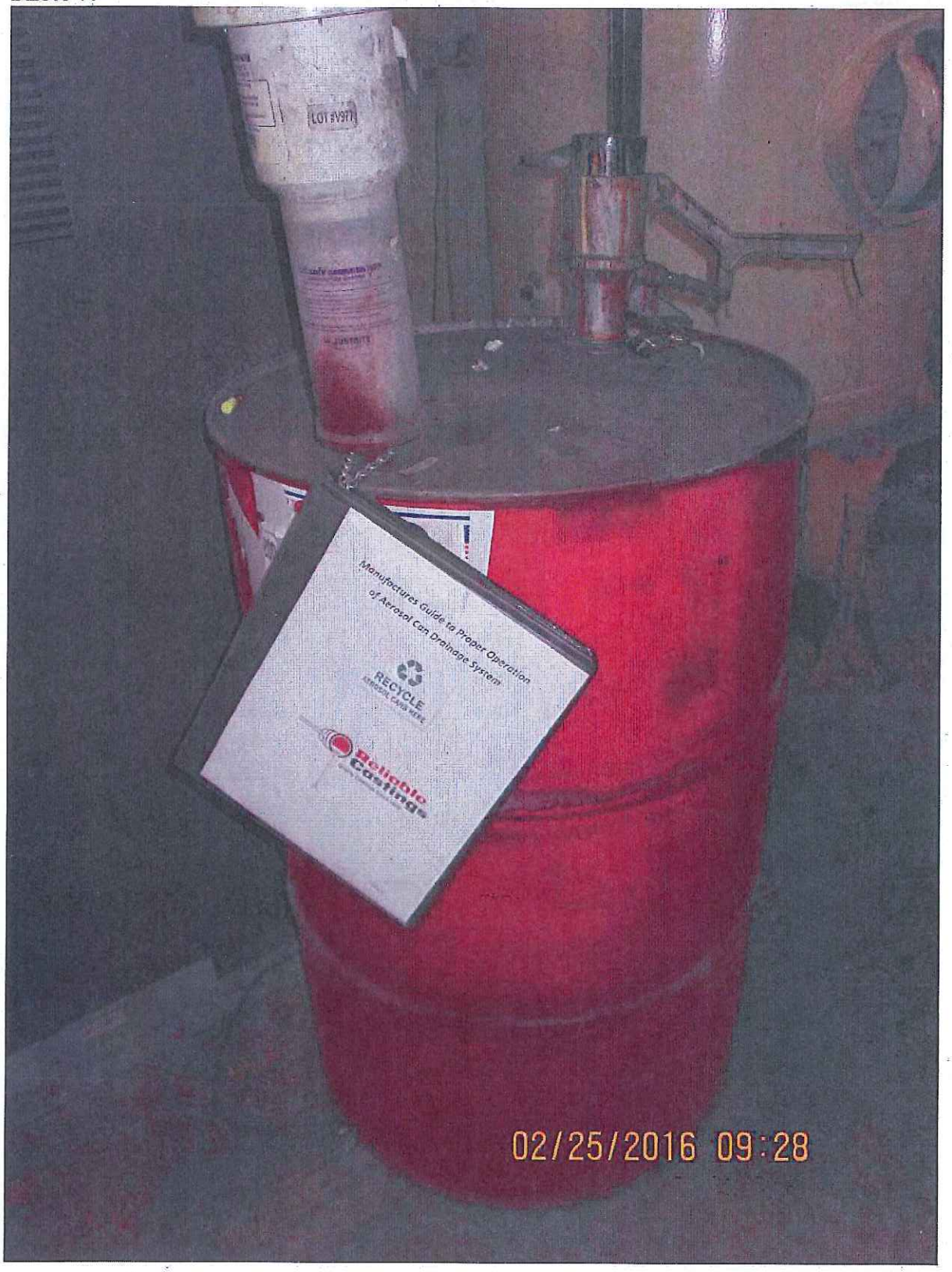


Photo 5:

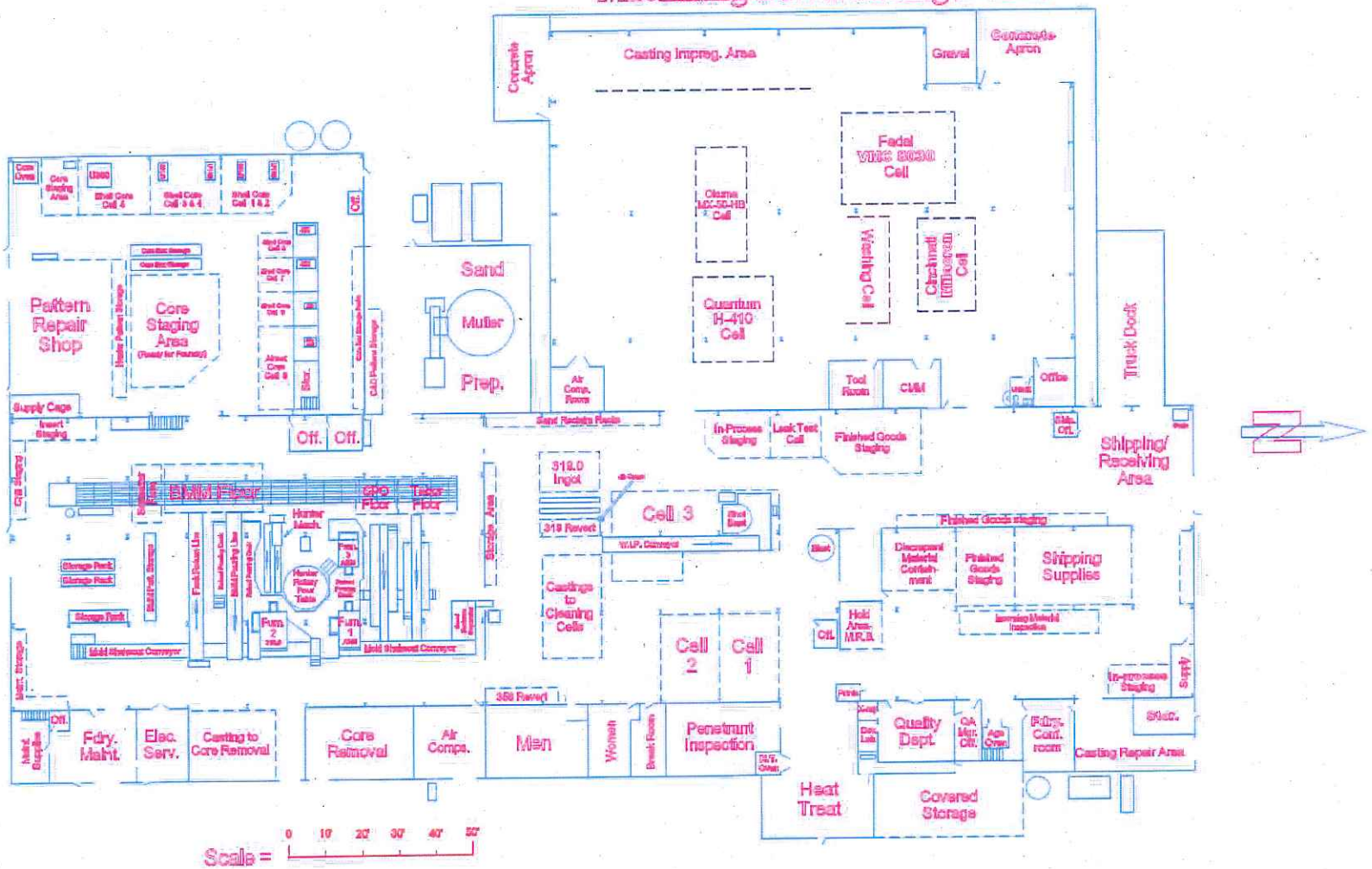
Photo 6:

Photo 7:


Manufactures Guide to Proper Operation of Aerosol Can Drainage System
RECYCLE
Reliable Coatings
02/25/2016 09:28

ATTACHMENT B: Facility Diagram

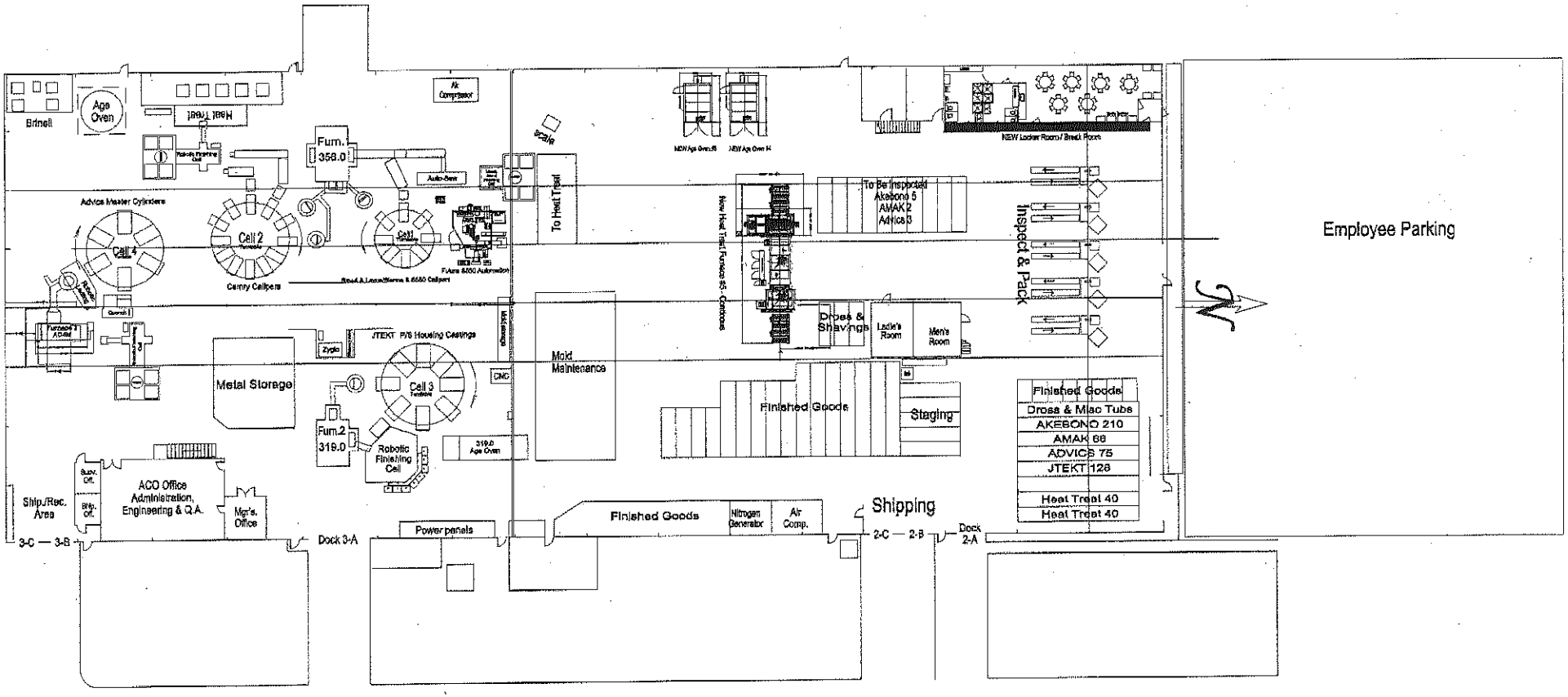
Machining Div. Building (New 2012)



Reliable Castings Co. Sand Foundry & Machining Div. Building

Revised 3-1-2012
(Reliable Sand Fdry 2012.CAD)

Reliable Castings Corporation -ACO Building



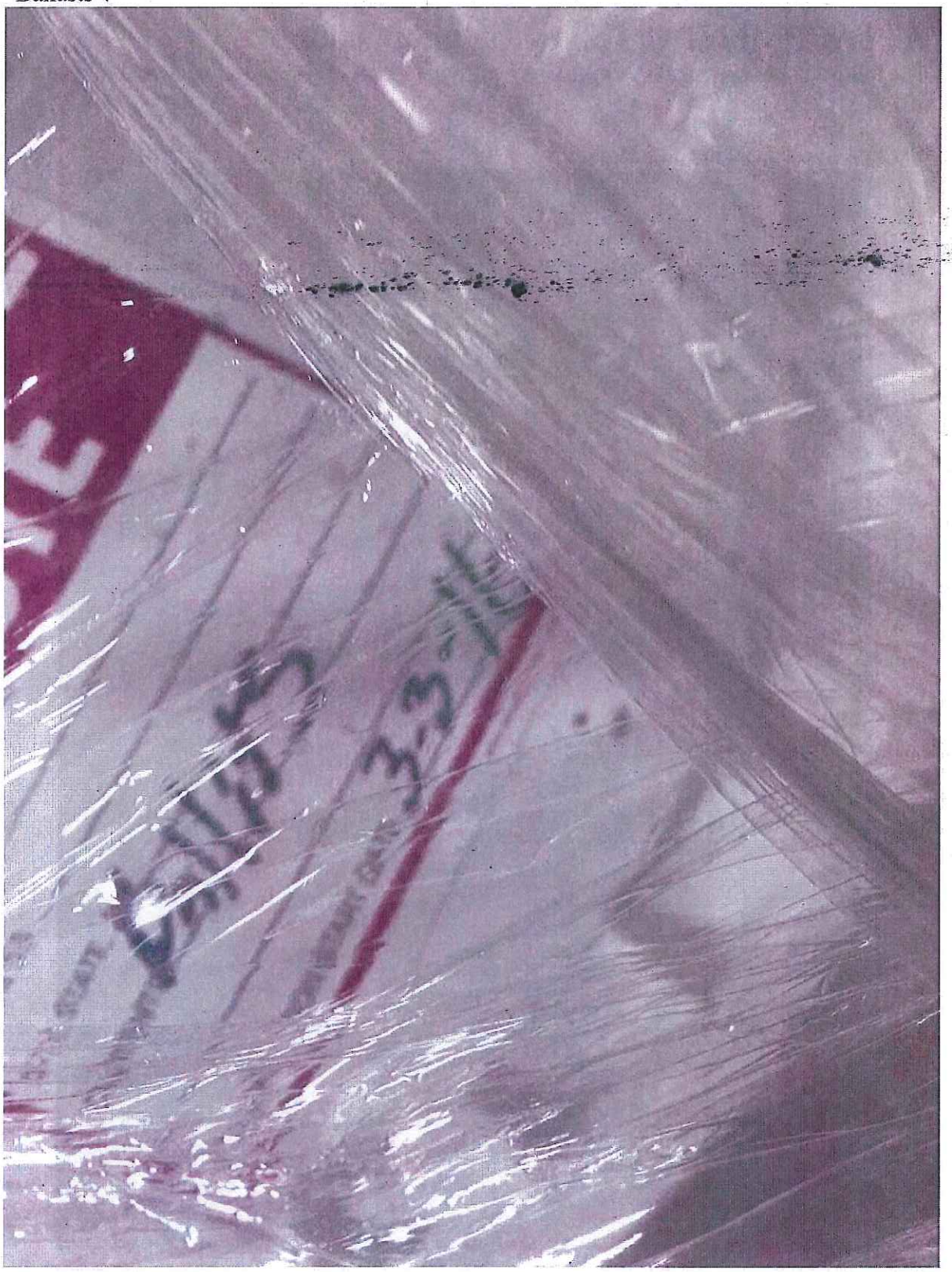
Revised 5-11-2013
(Reliable Castings ACO Building 5-11-13.CAD)

ATTACHMENT C: Follow-Up Information

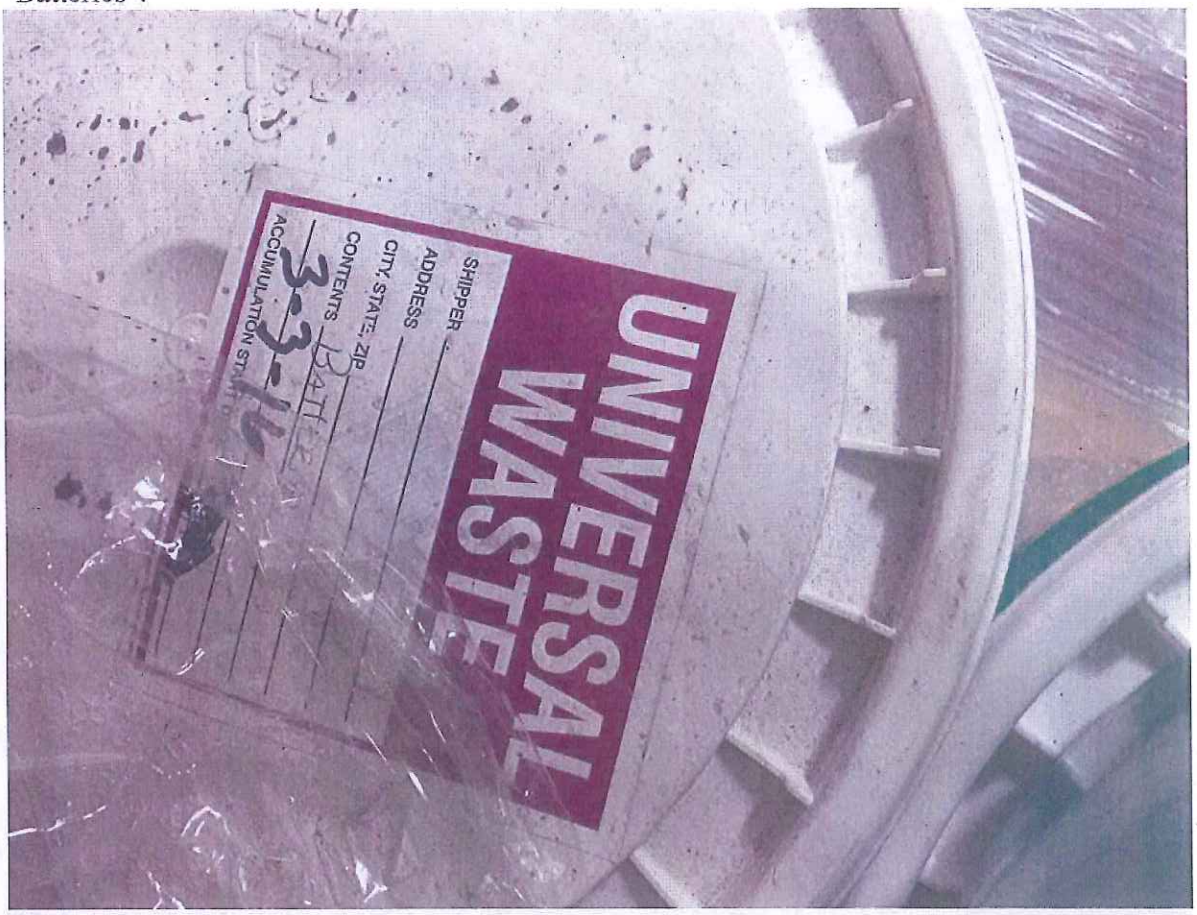
The following photographs (and titles) were provided by Mr. Zimmerman by email on March 18, 2016:

"ACO Aerosol Accumulation Drum":

"Ballasts":



"Batteries":


UNIVERSAL WASTE
SHIPPER
ADDRESS
CITY, STATE, ZIP
CONTENTS
ACCUMULATION

"Fluorescent Bulbs":

"Universal Waste Shipment":

Alloway
Your Resource for Defensible Data

ANALYTICAL REPORT

Lab Project # L16-10370

Received: 01/14/2016
Reported: 01/22/2016

Reliable Castings
Attn: Kent Zimmerman
1521 W. Michigan Ave
Sidney, OH 45365

Date/Time Sampled: 01/14/2016 10:20
Sampled By: KZ
Sampled Matrix: Wastewater
Containers: 1

Project Name: **Semi-Annual**

Sample ID: **Outfall 2.280**
Lab Sample # **L16-10370-02**

Analyte	Results	Units	PQL	Method	Analyst	Extraction Date	Analysis Date
Copper, Total	<0.008	mg/L	0.008	EPA-200.7	EAT		01/21/2016
Lead, Total	0.011	mg/L	0.010	EPA-200.7	EAT		01/21/2016
Zinc, Total	<0.010	mg/L	0.010	EPA-200.7	EAT		01/21/2016

Analysis Certified By: Lanie Wenning

Alloway
Your Resource for Defensible Data

ANALYTICAL REPORT

Lab Project # L16-10370

Received: 01/14/2016
Reported: 01/22/2016

Reliable Castings
Attn: Kent Zimmerman
1521 W. Michigan Ave
Sidney, OH 45365

Date/Time Sampled: 01/14/2016 10:20
Sampled By: KZ
Sampled Matrix: Wastewater
Containers: 1

Project Name: Semi-Annual

Sample ID: Outfall 3.280
Lab Sample # L16-10370-03

Analyte	Results	Units	PQL	Method	Analyst	Extraction Date	Analysis Date
Copper, Total	<0.008	mg/L	0.008	EPA-200.7	EAT		01/21/2016
Lead, Total	0.012	mg/L	0.010	EPA-200.7	EAT		01/21/2016
Zinc, Total	<0.010	mg/L	0.010	EPA-200.7	EAT		01/21/2016

Analysis Certified By: Lana Wenning

Alloway
Your Resource for Defensible Data

ANALYTICAL REPORT

Lab Project # L16-10370

Received: 01/14/2016
Reported: 01/22/2016

Reliable Castings
Attn: Kent Zimmerman
1521 W. Michigan Ave
Sidney, OH 45365

Date/Time Sampled: 01/14/2016 10:20
Sampled By: KZ
Sampled Matrix: Wastewater
Containers: 1

Project Name: **Semi-Annual**

Sample ID: **Outfall 4.280**
Lab Sample # **L16-10370-04**

Analyte	Results	Units	PQL	Method	Analyst	Extraction Date	Analysis Date
Copper, Total	<0.008	mg/L	0.008	EPA-200.7	EAT		01/21/2016
Lead, Total	<0.010	mg/L	0.010	EPA-200.7	EAT		01/21/2016
Zinc, Total	0.012	mg/L	0.010	EPA-200.7	EAT		01/21/2016

Analysis Certified By: Lanie Wenning

1101 N. Cole St. • Lima, Ohio 45805
419.223.1362 • Fax 419.227.3792
800.436.1243

1502 W. Fourth St. • Mansfield, Ohio 44906
419.525.1644 • Fax 419.524.5575
800.635.3222

1776 Marion-Waldo Rd. • Marion, Ohio 43302
740.389.5991 • Fax 740.389.1481
800.873.2835

www.allowaylab.com

Alloway
Your Resource for Defensible Data

ANALYTICAL REPORT

Lab Project # L16-10370
Received: 01/14/2016
Reported: 01/22/2016

Reliable Castings
Attn: Kent Zimmerman
1521 W. Michigan Ave
Sidney, OH 45365

Date/Time Sampled: 01/14/2016 10:20
Sampled By: KZ
Sampled Matrix: Wastewater
Containers: 1

Project Name: **Semi-Annual**

Sample ID: **Outfall 5.280**
Lab Sample # **L16-10370-05**

Analyte	Results	Units	PQL	Method	Analyst	Extraction Date	Analysis Date
Copper, Total	0.376	mg/L	0.008	EPA-200.7	EAT		01/21/2016
Lead, Total	0.188	mg/L	0.010	EPA-200.7	EAT		01/21/2016
Zinc, Total	4.600	mg/L	0.010	EPA-200.7	EAT		01/21/2016

Analysis Certified By: Lane Wenning

1101 N. Cole St. • Lima, Ohio 45805
419.223.1362 • Fax 419.227.3792
800.436.1243

1502 W. Fourth St. • Mansfield, Ohio 44906
419.525.1644 • Fax 419.524.5575
800.635.3222

1776 Marion-Waldo Rd. • Marion, Ohio 43302
740.389.5991 • Fax 740.389.1481
800.873.2835

www.alloway.com

SECTION 1. IDENTIFICATION

Product name	:	PEP SET I 8000 PLUS BINDER DR448
Product code	:	R0373909
Material	:	32969

Manufacturer or supplier's details

Company	:	ASK Chemicals L.P.
Address	:	495 Metro Place South Suite 250 Dublin, OH 43017 United States of America
Emergency telephone number	:	1-855-ASK4YOU (1-855-275-4968)
E-mail address	:	EHSRequests.usa@ask-chemicals.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation) : Category 4

Eye irritation : Category 2B

GHS Label element

Hazard pictograms :

Signal word : Warning

Hazard statements : H320 Causes eye irritation.
H332 Harmful if inhaled.

Precautionary statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
Response:
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Other hazards

The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity:
33.66 %

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
TRIETHYLENE GLYCOL	112-27-6	>= 30 - < 50
TRIMETHYLOL PROPANE, POLY PO ADDUCT	25723-16-4	>= 20 - < 30
DIETHYLENE GLYCOL	111-46-6	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice : Consult a physician.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.

In case of skin contact : Take off contaminated clothing and shoes immediately.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Cool closed containers exposed to fire with water spray.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Material can create slippery conditions.

Environmental precautions	:	Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
DIETHYLENE GLYCOL	111-46-6	TWA	10 mg/m3	US WEEL

Personal protective equipment

Eye protection	:	Safety goggles
Protective measures	:	Wear suitable protective equipment. Avoid contact with skin. When using do not eat, drink or smoke.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	no data available
Odour	:	no data available
Odour Threshold	:	no data available
pH	:	no data available
Melting point	:	no data available
Boiling point	:	277.7 °C

Flash point	:	93.4 °C Method: Seta closed cup
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Burning rate	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	no data available
Density	:	1.130 g/cm3 (77.00 °F)
Bulk density	:	no data available
Solubility(ies)		
Water solubility	:	no data available
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity		
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Chemical stability : Stable

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Skin Absorption

Acute toxicity

Product:
Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 8529 ppm
Exposure time: 4 h
Test atmosphere: gas
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

Components:

TRIETHYLENE GLYCOL:

Acute oral toxicity : LD50 (rat): 15,000 - 22,000 mg/kg

Acute inhalation toxicity : LC50 (rat): > 20 mg/l
Exposure time: 1 h

Acute dermal toxicity : LD50 (rabbit): > 22,600 mg/kg

LD50 (rabbit): 12,200 mg/kg

Acute toxicity (other routes of administration) : LD50 (rat): 11,700 mg/kg

TRIMETHYLOL PROPANE, POLY PO ADDUCT:

Acute oral toxicity : LD50 (rat): 3,700 mg/kg

Acute dermal toxicity : LD50 (rat): > 2,000 mg/kg

DIETHYLENE GLYCOL:

Acute oral toxicity : LD50 (rat): 12,565 mg/kg

Acute toxicity estimate: 500 mg/kg
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : (mouse): 0.13 mg/l
Exposure time: 2 h

Acute dermal toxicity : LD50 (rabbit): 11,890 mg/kg

Skin corrosion/irritation

Components:

TRIETHYLENE GLYCOL:
Assessment: No skin irritation
Result: No skin irritation

TRIMETHYLOL PROPANE, POLY PO ADDUCT:
Assessment: Mild skin irritation
Result: Mild skin irritation

DIETHYLENE GLYCOL:
Assessment: Mild skin irritation
Result: Mild skin irritation

Serious eye damage/eye irritation

Components:

TRIETHYLENE GLYCOL:
Result: Mild eye irritation
Assessment: Mild eye irritation

TRIMETHYLOL PROPANE, POLY PO ADDUCT:
Result: Mild eye irritation
Assessment: Mild eye irritation

DIETHYLENE GLYCOL:
Result: Mild eye irritation
Assessment: Mild eye irritation

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

TRIETHYLENE GLYCOL:

Toxicity to fish	: LC 50 (Bluegill (Lepomis macrochirus)): > 10,000 mg/l Exposure time: 96 h Method: Static Remarks: Mortality
Toxicity to daphnia and other aquatic invertebrates	: EC 50 (Water flea (Daphnia magna)): 46,500 mg/l Exposure time: 48 h Method: Static Remarks: Intoxication

TRIMETHYLOL PROPANE, POLY PO ADDUCT:

Toxicity to fish	: LC 50 (Leuciscus idus (Golden orfe)): 4,600 mg/l Exposure time: 48 h

DIETHYLENE GLYCOL:

Toxicity to fish	: LC 50 (Western mosquitofish (Gambusia affinis)): > 32,000 mg/l Exposure time: 96 h Method: Static Remarks: Mortality

Toxicity to daphnia and other aquatic invertebrates	:	LC 50 (Water flea (Daphnia magna)): > 10,000 mg/l Exposure time: 24 h Method: Static Remarks: Mortality

Persistence and degradability

Components:

DIETHYLENE GLYCOL:

Biodegradability	:	Biodegradation: 92 % Exposure time: 28 d

Bioaccumulative potential

Components:

TRIETHYLENE GLYCOL:

Bioaccumulation	:	Species: Sheepshead minnow (Cyprinodon variegatus) Bioconcentration factor (BCF): 1,700 Exposure time: 28 d Concentration: 7.8 mg/l Method: Flow through

TRIMETHYLOL PROPANE, POLY PO ADDUCT:

Partition coefficient: n-octanol/water	:	log Pow: < 0

DIETHYLENE GLYCOL:

Partition coefficient: n-octanol/water	:	log Pow: -1.47

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with all applicable local, state and federal regulations. Dispose of wastes in an approved waste disposal facility.

SECTION 14. TRANSPORT INFORMATION

REGULATION
U.S. DOT - ROAD
Not regulated as a dangerous good

U.S. DOT - RAIL
Not regulated as a dangerous good

U.S. DOT - INLAND WATERWAYS
Not regulated as a dangerous good

TRANSPORT CANADA - ROAD
Not regulated as a dangerous good

TRANSPORT CANADA - RAIL
Not regulated as a dangerous good

TRANSPORT CANADA - INLAND WATERWAYS
Not regulated as a dangerous good

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES
Not regulated as a dangerous good

INTERNATIONAL MARITIME DANGEROUS GOODS
Not regulated as a dangerous good

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO
Not regulated as a dangerous good

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
HYDROFLUORIC ACID	7664-39-3	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
HYDROFLUORIC ACID	7664-39-3	100	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

1,4-DIOXANE	123-91-1

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

METHANOL	67-56-1
ETHYLENE GLYCOL MONOMETHYL ETHER	109-86-4

The components of this product are reported in the following inventories:

TSCA	: On TSCA Inventory
DSL	: All components of this product are on the Canadian DSL.
AUSTR	: On the inventory, or in compliance with the inventory
NZIOC	: Not in compliance with the inventory
ENCS	: Not in compliance with the inventory
KOREA	: Not in compliance with the inventory
PHIL	: Not in compliance with the inventory
CHINA	: On the inventory, or in compliance with the inventory

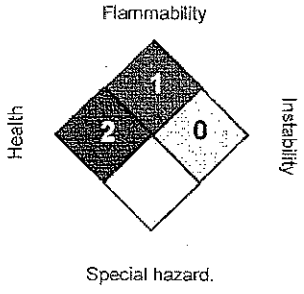
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by ASK's Environmental Health and Safety Department-- EHSrequests.USA@ask-chemicals.com.

Revision Date : 05/26/2015

ASK CHEMICALS
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Material Safety Data Sheet
PEP SET II 8200 BINDER DR448

Version 0.1 Revision Date 05/02/2015 Print Date 05/19/2015

SECTION 1. IDENTIFICATION

Product name	:	PEP SET II 8200 BINDER DR448
Product code	:	000000197416
Material	:	32570

Manufacturer or supplier's details

Company	:	ASK Chemicals L.P.
Address	:	495 Metro Place South Suite 250 Dublin, OH 43017 United States of America
Emergency telephone number	:	1-855-ASK4YOU (1-855-275-4968)
E-mail address	:	EHSRequests.usa@ask-chemicals.com

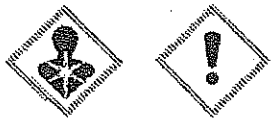
SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation)	:	Category 4
Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Respiratory sensitisation	:	Category 1
Skin sensitisation	:	Category 1

GHS Label element

Hazard pictograms :



Signal word : Danger

Hazard statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection/ face protection.
P280 Wear protective gloves.
P285 In case of inadequate ventilation wear respiratory protection.

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Material Safety Data Sheet
PEP SET II 8200 BINDER DR448

Version 0.1 Revision Date 05/02/2015 Print Date 05/19/2015

Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
P362 Take off contaminated clothing and wash before reuse.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
POLYMETHYLENE POLYPHENYL ISOCYANATE	9016-87-9	>= 50 - < 70
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	>= 30 - < 50
METHYLENE DIPHENYLISOCYANATE	26447-40-5	>= 5 - < 10

SECTION 4. FIRST AID MEASURES

General advice : Consult a physician.

If inhaled : Call a physician or poison control centre immediately.
If breathed in, move person into fresh air.

In case of skin contact : Take off contaminated clothing and shoes immediately.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed : None known.

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PEP SET II 8200 BINDER DR448

Version 0.1 Revision Date 05/02/2015 Print Date 05/19/2015

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during firefighting	:	Do not use a solid water stream as it may scatter and spread fire. Burning produces irritant fumes. Cool closed containers exposed to fire with water spray.
Further information	:	In the event of fire and/or explosion do not breathe fumes.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Exposure to decomposition products may be a hazard to health.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Material can create slippery conditions.
Environmental precautions	:	Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. In case of insufficient ventilation, wear suitable respiratory equipment.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

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4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	TWA	0.005 ppm	ACGIH
		TWA	0.005 ppm 0.05 mg/m3	NIOSH REL
		C	0.2 ppm 0.2 mg/m3	NIOSH REL
		C	0.02 ppm 0.2 mg/m3	OSHA Z-1
		C	0.02 ppm 0.2 mg/m3	OSHA P0

Personal protective equipment

Eye protection : Safety goggles

Protective measures : Wear suitable protective equipment.
Avoid contact with skin.
When using do not eat, drink or smoke.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : dark brown

Odour : musty

Odour Threshold : no data available

pH : no data available

Melting point : no data available
Boiling point : 646 °F
(1013 hPa)

Flash point : 198.88 °C
Method: Seta closed cup

Evaporation rate : > 1
Ethyl Ether

Flammability (solid, gas) : no data available

Burning rate : no data available

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure	:	< 1.00 mmHg (50.00 °F)
Relative vapour density	:	8.5 AIR=1
Relative density	:	1.24 (77.00 °F)
Density	:	1.24 g/cm3 (77.0 °F)
Bulk density	:	no data available
Solubility(ies)		
Water solubility	:	not applicable
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity		
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	:	Stable
Incompatible materials	:	water

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation
Skin Absorption

Acute toxicity

Product:

Acute inhalation toxicity	:	Acute toxicity estimate: 11 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method

Components:

POLYMETHYLENE POLYPHENYL ISOCYANATE:

Acute oral toxicity	:	LD50 (rat): > 10,000 mg/kg

Acute inhalation toxicity	:	LC50 (rat): 0.369 - 0.49 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (rabbit): > 10,000 mg/kg LD50 (rabbit): 11,300 mg/kg

4,4'-DIPHENYLMETHANE DIISOCYANATE:

Acute oral toxicity	:	LD50 (rat): 9,200 mg/kg
Acute inhalation toxicity	:	LC50 (rat): > 2.24 mg/l Exposure time: 1 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (rabbit): > 7,900 mg/kg

METHYLENE DIPHENYLISOCYANATE:

Acute oral toxicity	:	LD50 (rat): > 15,800 mg/kg
Acute inhalation toxicity	:	LC50 (rat): 0.49 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (rabbit): > 5,010 mg/kg

Skin corrosion/irritation

Product:

Assessment: Irritating to skin
Result: Irritating to skin

Components:

POLYMETHYLENE POLYPHENYL ISOCYANATE:
Assessment: Irritating to skin.
Result: Irritating to skin.

4,4'-DIPHENYLMETHANE DIISOCYANATE:
Assessment: Irritating to skin.
Result: Irritating to skin.

METHYLENE DIPHENYLISOCYANATE:
Assessment: Irritating to skin.
Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Result: Irritating to eyes
Assessment: Irritating to eyes

Components:

POLYMETHYLENE POLYPHENYL ISOCYANATE:
Result: Irritating to eyes.

Assessment: Irritating to eyes.

4,4'-DIPHENYLMETHANE DIISOCYANATE:
Result: Irritating to eyes.
Assessment: Irritating to eyes.

METHYLENE DIPHENYLISOCYANATE:
Result: Irritating to eyes.
Assessment: Irritating to eyes.

Respiratory or skin sensitisation

Product:
Assessment: May cause sensitization by inhalation.

Assessment: May cause sensitization by skin contact.

Components:
POLYMETHYLENE POLYPHENYL ISOCYANATE:
Assessment: May cause sensitisation by skin contact.

Assessment: May cause sensitisation by inhalation.

4,4'-DIPHENYLMETHANE DIISOCYANATE:
Assessment: May cause sensitisation by inhalation.

Assessment: May cause sensitisation by skin contact.

METHYLENE DIPHENYLISOCYANATE:
Assessment: May cause sensitisation by inhalation.

Assessment: May cause sensitisation by skin contact.

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Further information

Components:
4,4'-DIPHENYLMETHANE DIISOCYANATE:
Remarks: Lungs

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Dispose of in accordance with all applicable local, state and federal regulations. Dispose of wastes in an approved waste disposal facility.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR
Not regulated as a dangerous good

Special precautions for user

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Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

POLYMETHYLENE POLYPHENYL ISOCYANATE	9016-87-9	50 %
4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	45 %

Clean Air Act
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	45 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

4,4'-DIPHENYLMETHANE DIISOCYANATE	101-68-8	45 %

California Prop 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

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Material Safety Data Sheet
PEP SET II 8200 BINDER DR448

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TSCA	:	On TSCA Inventory
DSL	:	All components of this product are on the Canadian DSL.
AUSTR	:	On the inventory, or in compliance with the inventory
NZIOC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KOREA	:	On the inventory, or in compliance with the inventory
PHIL	:	On the inventory, or in compliance with the inventory
CHINA	:	On the inventory, or in compliance with the inventory

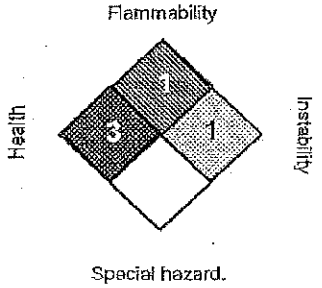
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	1

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by ASK's Environmental Health and Safety Department-- EHSrequests.USA@ask-chemicals.com.

Revision Date : 05/02/2015

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Material Safety Data Sheet
PEP SET 8305 CATALYST PL363

Version 0.1 Revision Date 05/05/2015 Print Date 05/19/2015

SECTION 1. IDENTIFICATION

Product name	:	PEP SET 8305 CATALYST PL363
Product code	:	R0321056
Material	:	32776

Manufacturer or supplier's details

Company	:	ASK Chemicals L.P.
Address	:	495 Metro Place South Suite 250 Dublin, OH 43017 United States of America
Emergency telephone number	:	1-855-ASK4YOU (1-855-275-4968)
E-mail address	:	EHSRequests.usa@ask-chemicals.com

SECTION 2. HAZARDS IDENTIFICATION

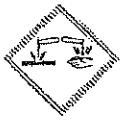
GHS Classification

Skin corrosion : Category 1A

Serious eye damage : Category 1

GHS Label element

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste dis-

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posal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
DIPROPYLENE GLYCOL	25265-71-8	>= 70 - < 90
TRIS [3-(DIMETHYLAMINO)PROPYL]AMINE	33329-35-0	>= 10 - < 20

SECTION 4. FIRST AID MEASURES

General advice : Consult a physician.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get medical attention.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Take victim immediately to hospital.

In case of eye contact : Remove contact lenses.
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

If swallowed : If swallowed, DO NOT induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed : None known.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during firefighting : Do not use a solid water stream as it may scatter and spread fire.
Cool closed containers exposed to fire with water spray.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer- : Use personal protective equipment.
Ensure adequate ventilation.

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gency procedures		Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Material can create slippery conditions.
Environmental precautions	:	Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Eye protection	:	Wear face-shield and protective suit for abnormal processing problems. Proper eye protection according to ANSI Z87.1 must be worn.
Protective measures	:	Wear suitable protective equipment. Avoid contact with skin. When using do not eat, drink or smoke.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	amber
Odour	:	no data available
Odour Threshold	:	no data available
pH	:	no data available

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Melting point	:	no data available
Boiling point	:	231.9 °C (1,013.232 hPa) Calculated Phase Transition Liquid/Gas
Flash point	:	> 93.4 °C Method: Seta closed cup
Evaporation rate	:	> 1 Ethyl Ether
Flammability (solid, gas)	:	no data available
Burning rate	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	0.01333 hPa (20 °C) Calculated Vapor Pressure
Relative vapour density	:	no data available
Relative density	:	no data available
Density	:	1.000 g/cm3 (77.00 °F)
Bulk density	:	no data available
Solubility(ies)		
Water solubility	:	no data available
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Decomposition temperature	:	no data available
Viscosity		
Viscosity, dynamic	:	82 mPa.s
Viscosity, kinematic	:	no data available

SECTION 10. STABILITY AND REACTIVITY

Chemical stability : Stable

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Skin Absorption

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:

DIPROPYLENE GLYCOL:

Acute oral toxicity	:	LD50 (rat): 14,800 mg/kg
Acute dermal toxicity	:	LD50 (rabbit): > 5,000 mg/kg

TRIS [3-(DIMETHYLAMINO)PROPYL]AMINE:

Acute oral toxicity	:	LD50 (rat): 2,350 mg/kg
Acute inhalation toxicity	:	LD50 (rat): 6.9 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (rabbit): 1,150 mg/kg

Skin corrosion/irritation

Components:

DIPROPYLENE GLYCOL:
Assessment: Mild skin irritation
Result: Mild skin irritation

TRIS [3-(DIMETHYLAMINO)PROPYL]AMINE:
Assessment: Corrosive
Result: Corrosive

Serious eye damage/eye irritation

Components:

DIPROPYLENE GLYCOL:
Result: Mild eye irritation
Assessment: Mild eye irritation

TRIS [3-(DIMETHYLAMINO)PROPYL]AMINE:
Result: Blindness
Assessment: Blindness

Carcinogenicity

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcino-

gen by OSHA.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

DIPROPYLENE GLYCOL:

Toxicity to fish : LC 50 (Pimephales promelas (fathead minnow)): > 10,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l
Exposure time: 48 h

Toxicity to bacteria : EC 50 (Bacteria): > 5,000 mg/l
Exposure time: 16 h

Persistence and degradability

Components:

DIPROPYLENE GLYCOL:

Biodegradability : Biodegradation: 84 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Bioaccumulative potential

Components:

DIPROPYLENE GLYCOL:

Partition coefficient: n-octanol/water : log Pow: < 3

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with all applicable local, state and federal regulations.

Dispose of wastes in an approved waste disposal facility.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

UN number	: 1760
Proper shipping name	: CORROSIVE LIQUID, N.O.S.
Class	: 8
Packing group	: III
Labels	: 8

IATA-DGR

UN/ID No.	: 1760
Proper shipping name	: CORROSIVE LIQUID, N.O.S. (TRIS [3-(DIMETHYLAMINO)PROPYL]AMINE)
Class	: 8
Packing group	: III
Labels	: 8
Packing instruction (cargo aircraft)	: 856
Packing instruction (passenger aircraft)	: 852

IMDG-Code

UN number	: 1760
Proper shipping name	: CORROSIVE LIQUID, N.O.S. (TRIS [3-(DIMETHYLAMINO)PROPYL]AMINE)
Class	: 8
Packing group	: III
Labels	: 8
EmS Code	: ,
Marine pollutant	: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	: 1760
Proper shipping name	: Corrosive liquids, n.o.s. (TRIS [3-(DIMETHYLAMINO)PROPYL]AMINE)
Class	: 8

Packing group	:	III
Labels	:	8
ERG Code	:	154
Marine pollutant	:	no

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Acute Health Hazard
SARA 302	:	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

DIPROPYLENE GLYCOL	25265-71-8	87.5 %

California Prop 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

AUSTR	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL.
CHINA	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KOREA	:	On the inventory, or in compliance with the inventory
PHIL	:	On the inventory, or in compliance with the inventory
TSCA	:	All chemical substances in this product are either listed on the

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TSCA Inventory or are in compliance with a TSCA Inventory exemption.

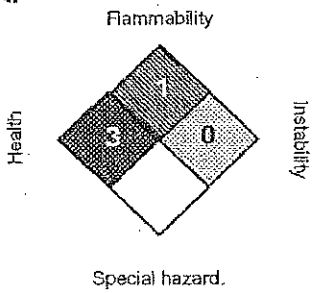
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by ASK's Environmental Health and Safety Department– EHSrequests.USA@ask-chemicals.com.

Revision Date : 05/05/2015

Reliable Castings Corporation

Emergency Contact List

Sand Foundry:

- *9-911*
- *Dave Allen – 937-830-3287*
- *Randy Presser – 937-602-3291*
- *Kent Zimmerman-937-703-3339*
- *RJ Kuhn – 513-368-6267*

ACO:

- *9-911*
- *Tim LeVan – 419-733-0215*
- *Bill Willoughby – 937-251-7927*
- *Kent Zimmerman – 937-703-3339*
- *RJ Kuhn – 513-368-6267*

Reliable Castings Corporation

Emergency Contact List

Cincinnati Plants:

- ***9-911***
- ***Mike Blanton – 513-307-9695***
- ***Chris Harris – 513-633-7580***
- ***Kent Zimmerman - 937-703-3339***
- ***RJ Kuhn – 513-368-6267***

ATTACHMENT D: Inspection Checklists

BK

Reliable Castings Corp. OHD986981231 2/25/2016

CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR REQUIREMENTS COMPLETE AND ATTACH A PROCESS, WASTE, P2 SUMMARY SHEET			
CESQG: ≤100Kg. (Approximately 25-30 gallons) of waste in a calendar month or ≤ 1 Kg. of acutely hazardous waste. SQG: Between 100 and 1,000 Kg. (About 25 to under 300 gallons) of waste in a calendar month. LQG: ≥ 1,000 Kg. (~300 gallons) of waste in a calendar month or >1 Kg. of acutely hazardous waste in a calendar month. *NOTE: To convert from gallons to pounds: Amount in gallons x Specific Gravity x 8.345 = Amounts in pounds.*			
Safety Equipment Used:			
WASTE EVALUATION			
1.	Have all wastes generated at the facility been adequately evaluated? [3745-52-11]		Yes ☑ No ☐ N/A ☐
GENERATOR CLASSIFICATION			
2.	Does the generator produce ≤100 kg. of hazardous waste per month in accordance with 3745-51-05(A)? [conditionally exempt small quantity generator ("CESQG")] Only HW on-site aerosol cans/lids → yet to be shipped off-site		Yes ☐ No ☐ N/A ☐
NOTE: If quantities of hazardous waste accumulated on-site at any one time exceed 1,000 Kg. - or the generator produces between 100 and 1,000 Kg. of hazardous waste per month, it is subject to the Small Quantity Generator ("SQG") regulations. ***If so,*** *complete the Small Quantity Generator Requirements checklist.* If quantities of acute hazardous waste accumulated on-site at any one time exceed 1 Kg. – or the generator produces 1,000 Kg or more of hazardous waste per month, it is subject to the Large Quantity Generator ("LQG") regulations. **If so**, complete the Large Quantity Generator Requirements checklist.			
OFF-SITE SHIPMENT OF HAZARDOUS WASTE			
3.	Does the CESQG ensure delivery of hazardous waste(s) to an off-site permitted TSD? [3734.02(F)]		Yes ☑ No ☐ N/A ☐
TREATMENT OF HAZARDOUS WASTE			
4.	Does the generator treat hazardous waste in a:		
	a.	Container that meets 3745-66-70 to 3745-66-77?	Yes ☐ No ☐ N/A ☐
	b.	Tank that meets 3745-66-90 to 3745-66-101 except 3745-66-97(C)?	Yes ☐ No ☐ N/A ☐
	c.	Drip pads that meet 3745-69-40 to 3745-69-45?	Yes ☐ No ☐ N/A ☐
	d.	Containment building that meets 3745-256-100 to 3745-256-102?	Yes ☐ No ☐ N/A ☐
NOTE: Complete appropriate checklist for each unit.			
NOTE: If the CESQG conducts treatment they are subject to the LQG requirements.			
NOTE: If waste is treated to meet LDRs, use LDR checklist.			
MIX HAZARDOUS WASTE WITH USED OIL			
5.	Does the CESQG mix its hazardous waste with used oil for the purpose of burning for energy recovery? [3745-51-05(J)] If so:		Yes ☐ No ☑ N/A ☐
	a.	Does the CESQG manage the mixture in accordance with 3745-279-21?	Yes ☐ No ☐ N/A ☐

BK

Reliable Castings Corp. OHD986981231 2/25/2016

USED OIL INSPECTION CHECKLIST
GENERATORS, COLLECTION CENTERS AND AGGREGATION POINTS

NOTE: 1. A facility is subject to the federal SPCC regulations (40 CFR 112) if it is non-transportation related (e.g., fixed) and has an aggregate above ground storage capacity greater than 1,320 gallons or a total underground storage capacity greater than 42,000 gallons of oil (including used oil), and there is reasonable expectation of a discharge to navigable waters.
2. Inspectors can check BUSTR's web-site at https://www.comapps.ohio.gov/sfm/fire_apps/bust/bustr/PublicInquiry.asp to determine if a UST containing used oil is registered with BUSTR. Inspectors may call BUSTR at 614-752-7938 or a BUSTR site coordinator to report an unregistered UST or a UST that appears to not be in compliance with BUSTR regulations. A list of BUSTR coordinators by county are at: https://www.comapps.ohio.gov/sfm/fire_apps/bust/bustr/SearchByCounty.asp.

PROHIBITIONS			
1.	Does the generator manage used oil in a surface impoundment or waste pile? If yes:		Yes ☐ No ☑ N/A ☐
	a.	Is the surface impoundment or waste pile regulated as a hazardous waste management unit? [3745-279-12(A)]	Yes ☐ No ☐ N/A ☑
NOTE: For example, used oil contaminated scrap metal stored in a pile.			
2.	Is used oil used as a dust suppressant? [3745-279-12(B)]		Yes ☐ No ☑ N/A ☐
3.	Is off-specification used oil fuel burned for energy recovery in devices specified in 3745-279-12(C)?		Yes ☐ No ☐ N/A ☑
NOTE: Multiple used oil checklists may be applicable if used oil handler is performing multiple tasks (e.g., If generating used oil and shipping directly to a burner, complete generator and marketer checklists at a minimum).			
GENERATOR STANDARDS			
4.	Does the generator mix hazardous waste with used oil? If so,		Yes ☐ No ☑ N/A ☐
	a.	Is the mixture managed as specified in 3745-279-10(B)? [3745-279-21(A)]	Yes ☐ No ☐ N/A ☐
NOTE: Used Oil mixed with listed (3745-51-30 to 3745-51-35) or characteristic (3745-51-20 to 3745-51-24) hazardous waste are subject to regulation as a hazardous waste, unless the listed hazardous waste is listed solely because it exhibits a hazardous characteristic, and the resultant mixtures do not exhibit a characteristic. Mixtures of used oil and CESQG hazardous waste are subject to OAC Chapter 3745-279.			
5.	Does the generator of a used oil containing greater than 1,000 ppm total halogens manage the used oil as a hazardous waste unless the presumption is rebutted successfully? [3745-279-21(B)]		Yes ☐ No ☐ N/A ☑
NOTE: If used oil contains greater than 1000 ppm total halogens, it is presumed to be listed hazardous waste until the presumption is successfully rebutted.			
6.	Does the generator store used oil in tanks; or containers; or a unit(s) subject to regulation as a hazardous waste management unit? [3745-279-22(A)]		Yes ☑ No ☐ N/A ☐
7.	Are containers and aboveground tanks used to store used oil in good condition with no visible leaks? [3745-279-22(B)]		Yes ☑ No ☐ N/A ☐
8.	Are containers, above ground tanks, and fill pipes used for underground tanks clearly labeled or marked "Used Oil?" [3745-279-22(C)]		Yes ☑ No ☐ N/A ☐

9.	Has the generator, upon detection of a release of used oil, done the following: [3745-279-22(D)]		Yes ☐ No ☐ N/A ☐
	a.	Stopped the release?	Yes ☐ No ☐ N/A ☐
	b.	Contained the release?	Yes ☐ No ☐ N/A ☐
	c.	Cleaned up and properly managed the used oil and other materials?	Yes ☐ No ☐ N/A ☐
	d.	Repaired or replaced the containers or tanks prior to returning them to service, if necessary?	Yes ☐ No ☐ N/A ☐
ON-SITE BURNING IN SPACE HEATER			
10.	Does the generator burn used oil in used-oil fired space heaters? [3745-279-23] If so:		
	a.	Does the heater burn only used oil that owner/operator generates or used oil received from household do-it-yourself (DIY) used oil generators?	Yes ☐ No ☐ N/A ☐
	b.	Is the heater designed to have a maximum capacity of not more that 0.5 million BTU per hour?	Yes ☐ No ☐ N/A ☐
	c.	Are the combustion gases from heater vented to the ambient air?	Yes ☐ No ☐ N/A ☐
NOTE: Ash accumulated in a space heater must be managed in accordance with 3745-279-10(E).			
GENERATOR TRANSPORTATION			
11.	Does the generator have the used oil hauled only by transporters that have obtained a U.S. EPA ID#? [3745-279-24]		Yes ☑ No ☐ N/A ☐
12.	If the generator self-transports used oil to an approved collection site or to an aggregation point owned by the generator: [3745-279-24]		
	a.	Does the generator transport used oil in a vehicle owned by the generator or an employee of the generator? [3745-279-24]	Yes ☐ No ☐ N/A ☐
	b.	Does the generator transport more than 55 gallons of used oil at any time? [3745-279-24]	Yes ☐ No ☐ N/A ☐
NOTE: Used oil generators may arrange for used oil to be transported by a transporter without a U.S. EPA ID # if the used oil is reclaimed under a contractual agreement (i.e., tolling arrangement).			
COLLECTION CENTERS AND AGGREGATION POINTS			
13.	Is the DIY used oil collection center in compliance with the generator standards in 3745-279-20 to 3745-279-24? [3745-279-30]		Yes ☐ No ☐ N/A ☐
14.	Is the non-DIY used oil collection center registered with Ohio EPA? [3745-279-31]		Yes ☐ No ☐ N/A ☐
15.	Is the used oil aggregation point in compliance with the generator standards in 3745-279-20 to 3745-279-24? [3745-279-32]		Yes ☐ No ☐ N/A ☐
NOTE: Complete Used Oil Generator and any other applicable used oil handler checklist (e.g., marketer, burner, etc.) for used oil collection centers and aggregation points.			

BK

Reliable Castings Corp. OHD986981231 2/25/2016

SMALL QUANTITY UNIVERSAL WASTE HANDLER REQUIREMENTS

Large Quantity Universal Waste Handler (LQUWH) = 5,000 Kg or more

Small Quantity Universal Waste Handler (SQUWH) = 5,000 Kg or less

PROHIBITIONS			
1.	Did the SQUWH dispose of universal waste? [3745-273-11(A)]		Yes ☐ No ☑ N/A ☐
2.	Did the SQUWH dilute or treat universal waste, except when responding to releases as provided in OAC rule 3745-273-17 or managing specific wastes as provided in OAC rule 3745-273-13? [3745-273-11(B)]		Yes ☐ No ☑ N/A ☐
WASTE MANAGEMENT AND LABELING/MARKING			
UNIVERSAL WASTE BATTERIES			
3.	Are batteries that show evidence of leakage, spillage or damage that could cause leaks contained? [3745-273-13(A)(1)] All bats. contained		Yes ☑ No ☐ N/A ☐
4.	If batteries are contained, are the containers closed and structurally sound, compatible with the contents of the battery and lack evidence of leakage, spillage or damage that could cause leakage? [3745-273-13(A)(1)]		Yes ☑ No ☐ N/A ☐
5.	Are the casings of the batteries breached, not intact, or open (except to remove the electrolyte)? [3745-273-13(A)]		Yes ☐ No ☑ N/A ☐
6.	If the electrolyte is removed or other wastes generated, has it been determined whether the electrolyte or other wastes exhibit a characteristic of hazardous waste? [3745-273-13(A)(3)]		Yes ☐ No ☐ N/A ☐
	a.	If the electrolyte or other waste is characteristic, is it managed in compliance with OAC Chapters 3745-50 through 3745-69? [3745-273-13(A)(3)(a)]	Yes ☐ No ☐ N/A ☐
	b.	If the electrolyte or other waste is not hazardous, is it managed in compliance with applicable law? [3745-273-13(A)(3)(b)]	Yes ☐ No ☐ N/A ☐
7.	Are the batteries or containers of batteries labeled with the words "Universal Waste-Battery(ies)" or "Waste Battery(ies)" or "Used Battery(ies)?" [3745-273-14(A)]		Yes ☑ No ☐ N/A ☐
UNIVERSAL WASTE PESTICIDES			
8.	Does the SQUWH prevent releases to the environment by managing pesticides in containers that are closed, structurally sound, compatible with the pesticides, and lack evidence of leakage, spillage, or damage? [3745-273-13(B)(1)]		Yes ☐ No ☐ N/A ☐
9.	If the original pesticide container is in poor condition, was it over-packed into an acceptable container? [3745-273-13(B)(2)]		Yes ☐ No ☐ N/A ☐
10.	If the pesticide is stored in a tank, are the requirements of rules 3745-66-90 through 3745-66-101, except for paragraph (C) of 3745-66-97, of the OAC met? (Use tank checklist) [3745-273-13(B)(3)]		Yes ☐ No ☐ N/A ☐
11.	If pesticides are stored in a transport vehicle, is it closed, structurally sound, compatible with the pesticide(s), and does it lack evidence of leakage, spillage, or damage that could cause leakage? [3745-273-13(B)(4)]		Yes ☐ No ☐ N/A ☐
12.	Are recalled universal waste pesticides that are in containers, tanks, or transport vehicles labeled with the label that was on or accompanied the product as sold or distributed and labeled with the words "Universal Waste Pesticides" or "Waste Pesticides?" [3745-273-14(B)(1)&(2)]		Yes ☐ No ☐ N/A ☐

13.	Are unused pesticide products that are in containers, tanks, or transport vehicles labeled with either the label that was on the product when purchased (if still legible), the appropriate DOT label, or the designated label prescribed by the pesticide collection program and labeled with the words "Universal Waste-Pesticides" or "Waste Pesticides?" [3745-273-14(C)(1)&(2)]		Yes ☐ No ☐ N/A ☐
UNIVERSAL WASTE MERCURY-CONTAINING EQUIPMENT			
14.	Has mercury-containing equipment with non-contained elemental mercury or that shows evidence of leakage, spillage or damage that could cause leaks been placed in a container that is closed, structurally sound, compatible with contents of the device and lacks evidence of leakage, spillage or damage that could cause leakage and is designed to prevent escape of mercury into the environment by volatilization or any other means? [3745-273-13(C)(1)]		Yes ☐ No ☐ N/A ☐
15.	If the mercury-containing ampules are removed, does the SQUWH: [3745-273-13(C)(2)]		
	a.	Remove and manage the ampules in a manner to prevent breakage and is the removal done over or in a containment device? [3745-273-13(C)(2)(a)&(b)]	Yes ☐ No ☐ N/A ☐
	b.	Have a clean-up system readily available to transfer spilled mercury to another container that meets the requirements of OAC rule 3745-52-34 and is the spilled mercury transferred immediately? [3745-273-13(C)(2)(c)&(d)]	Yes ☐ No ☐ N/A ☐
	c.	Ensure that the area where ampules are removed is well ventilated and monitored in compliance with applicable OSHA exposure levels for mercury? [3745-273-13(C)(2)(e)]	Yes ☐ No ☐ N/A ☐
	d.	Ensure that employees are thoroughly familiar with the proper waste handling and emergency procedures? [3745-273-13(C)(2)(f)]	Yes ☐ No ☐ N/A ☐
	e.	Ensure that removed ampules are stored in closed, non-leaking containers that are in good condition? [3745-273-13(C)(2)(g)]	Yes ☐ No ☐ N/A ☐
	f.	Pack removed ampules in containers with packing material to prevent breakage during storage, handling and transportation? [3745-273-13(C)(2)(h)]	Yes ☐ No ☐ N/A ☐
16.	If the open original housing holding mercury is removed from a mercury-containing equipment that does not contain an ampule, does the SQUWH: [3745-273-13(C)(3)]		Yes ☐ No ☐ N/A ☐
	a.	Immediately seal the original housing holding the mercury with an air-tight seal to prevent the release of any mercury to the environment? [3745-273-13(C)(3)(a)]	Yes ☐ No ☐ N/A ☐
	b.	Follow all requirements for removing ampules and managing removed ampules in accordance with 3745-273-13(C)(2)? [3745-273-13(C)(3)(b)]	Yes ☐ No ☐ N/A ☐
17.	When removing mercury containing ampules from mercury-containing equipment or sealing mercury from its original housing if there are mercury or clean-up residues resulting from spills or leaks, and/or other waste generated (e.g., remaining mercury-containing device), has it been determined whether those exhibit a characteristic of hazardous waste identified in OAC rules 3745-51-20 to 3745-51-24? [3745-273-13(C)(4)(a)]		Yes ☐ No ☐ N/A ☐

	a.	If the residues, and/or wastes are characteristic, are they managed in compliance with Chapters 3745-50 through 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code? (The handler is considered the generator of the mercury, residues, and/or other waste and is subject to OAC Chapter 3745-52) [3745-273-13(C)(4)(b)]	Yes ☐ No ☐ N/A ☐
18.		Is mercury-containing equipment or containers of mercury-containing equipment labelled either "Universal Waste-Mercury-Containing Equipment" or "Waste Mercury-Containing Equipment" or "Used Mercury-Containing Equipment"? [3745-237-14(D)(1)]	Yes ☐ No ☐ N/A ☐
19.		Are mercury-containing thermostats or containers containing ONLY thermostats labeled either "Universal Waste-Mercury Thermostat(s)" or "Waste Mercury Thermostat(s)" or "Used Mercury Thermostat(s)?" [3745-273-14(D)(2)]	Yes ☐ No ☐ N/A ☐
UNIVERSAL WASTE LAMPS			
20.		Does the SQUWH contain lamps in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with contents of the lamps? Are containers or packages closed and do they lack evidence of leakage, spillage or damage that could cause leakage? [3745-273-13(D)(1)]	Yes ☐ No ☑ N/A ☐
21.		Are lamps that show evidence of breakage, leakage or damage that could cause a release of mercury or hazardous constituents into the environment immediately cleaned up? Are they placed into a container that is closed, structurally sound, compatible with the contents of the lamps, and lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or hazardous waste constituents to the environment? [3745-273-13(D)(2)]	Yes ☐ No ☑ N/A ☐
NOTE: ***Treatment (such as crushing) by a UWH is prohibited under this rule unless the facility is permitted for such activities [3745-273-31(B)].*** *A generator crushing lamps must manage lamps according to hazardous waste rules (OAC Chapter 3745-52). Lamp crushing is a form of generator treatment (OAC rule 3745-52-34). Crushed lamps must be transported by a registered hazardous waste transporter to a permitted hazardous waste facility using a hazardous waste manifest.*			
22.		Are the lamps or containers or packages of lamps labeled with the words "Universal Waste-Lamp(s)" or "Waste Lamp(s)" or "Used Lamp(s)?" [3745-273-14(E)]	Yes ☐ No ☑ N/A ☐
ACCUMULATION TIME			
23.		Is the waste accumulated for less than one year? [3745-273-15(A)]	Yes ☑ No ☐ N/A ☐
	a.	If not, is the waste accumulated over one year in order to facilitate proper recovery, treatment or disposal? (Burden of proof is on the handler to demonstrate) [3745-273-15(B)]	Yes ☐ No ☐ N/A ☐
NOTE: Accumulation is defined as date generated or date received from another handler.			
24.		Is the handler able to demonstrate the length of time the universal waste has been accumulated? [3745-273-15(C)] If yes, describe below: Shipment records although universal waste container labels should be updated w/ proper dates	Yes ☑ No ☐ N/A ☐

EMPLOYEE TRAINING			
25.	Are employees who handle or have the responsibility for managing universal waste informed of waste handling/emergency procedures, relative to their responsibilities? [3745-273-16]	Yes ☑	No ☐ N/A ☐
RESPONSE TO RELEASES			
26.	Are releases of universal waste and other residues immediately contained? [3745-273-17(A)]	Yes ☐	No ☐ N/A ☐
27.	Is the material released characterized? [3745-273-17(B)]	Yes ☐	No ☐ N/A ☐
28.	If the material released is a hazardous waste, was it managed as required in OAC Chapters 3745-50 through 3745-69? (If the waste is hazardous, the handler is considered the generator of the waste and is subject to OAC Chapter 3745-52) [3745-273-17(B)]	Yes ☐	No ☐ N/A ☐
OFF-SITE SHIPMENTS			
NOTE: If a SQUWH self-transports waste, then the handler must comply with the Universal Waste transporter requirements.			
29.	Are universal wastes sent to either another handler, destination facility or foreign destination? [3745-273-18(A)]	Yes ☑	No ☐ N/A ☐
30.	Is the handler aware of DOT requirements for packaging and shipping? If no, make aware of 49 CFR 171-180.	Yes ☑	No ☐ N/A ☐
31.	Prior to shipping universal waste off-site, does the originating handler ensure that the receiver agrees to receive the shipment? [3745-273-18(D)]	Yes ☑	No ☐ N/A ☐
32.	Has the originating handler ever had an off-site shipment rejected by another handler or destination facility?	Yes ☐	No ☑ N/A ☐
	a. If yes, did the originating handler receive the waste back or agree to where the shipment was sent? [3745-273-18(E)]	Yes ☐	No ☐ N/A ☐
33.	If a handler rejects a partial or full load from another handler, does the receiving handler contact the originating handler and discuss and do <u>one of the following</u>:	Yes ☐	No ☐ N/A ☐
	a. Send the waste back to the originating handler or send the shipment to a destination facility (If both the originating and receiving handler agree)? [3745-273-18(F)]	Yes ☐	No ☐ N/A ☐
34.	If the handler received a shipment of hazardous waste that was not a universal waste, did the SQUWH immediately notify Ohio EPA? [3745-273-18(G)]	Yes ☐	No ☐ N/A ☐
EXPORTS			
NOTE: Small quantity handlers that export waste to the countries listed in 40 CFR 262.58(a)(1) are subject to 40 CFR 262 subpart H. Small quantity handlers that export waste to a foreign destination other than the countries listed in 40 CFR 262.58(a)(1) are subject to 40 CFR 262.53, 40 CFR 262.56(a)(1) to (a)(4), (a)(6), and (b), 40 CFR 262.57, and 40 CFR 262 subpart E. [3745-273-20]			
NOTE: Violations regarding exporting universal waste to foreign destinations should be referred to U.S. EPA Region 5 because the federal counterpart provisions are not delegable to states.			